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FURTHER NOTES ON THE SPORADIC APPEARANCE OF NON-EDIBLE MUSHROOMS IN CULTIVATED MUSHROOM BEDS

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(WITH PLATE 4)

To the student of fleshy fungi the winter season can be used to great advantage in collecting and studying the Agarics and different forms of Pezizas which appear in cutlivated mushroom beds. In a previous paper[1] I pointed out that a number of agarics appear besides *Agaricus campestris* in cultivated mushroom beds and that in a number of cases rather uncommon mushrooms are found which appear to be confined to the mushroom house or appear but rarely outside of mushroom culture beds. At present the fungus *Panaeolus venenosus* Murrill;[2] interesting for its toxicological properties, is known only from mushroom beds in which the cultivated mushroom is grown. In the present note I wish further to add to the list of names of fungi which may be found in mushroom houses.

In the spring season of 1918, in New York, there commonly appeared in beds well illuminated, somewhat dry, and shortly after casing, a great number of small white mushrooms which at first glance gives one the impression of seeing large spots of white felt covering the soil. On closer examination it is found that the

[1] Levine, M. The sporadic appearance of non-edible mushrooms in culture of *Agaricus campestris*. Bull. Torr. Club. Feb., 1919.

[2] ——. The physiological properties of two species of poisonous mushrooms. Mem. Torr. Club 17: 176–201. *pls. 1–2.* 1918.

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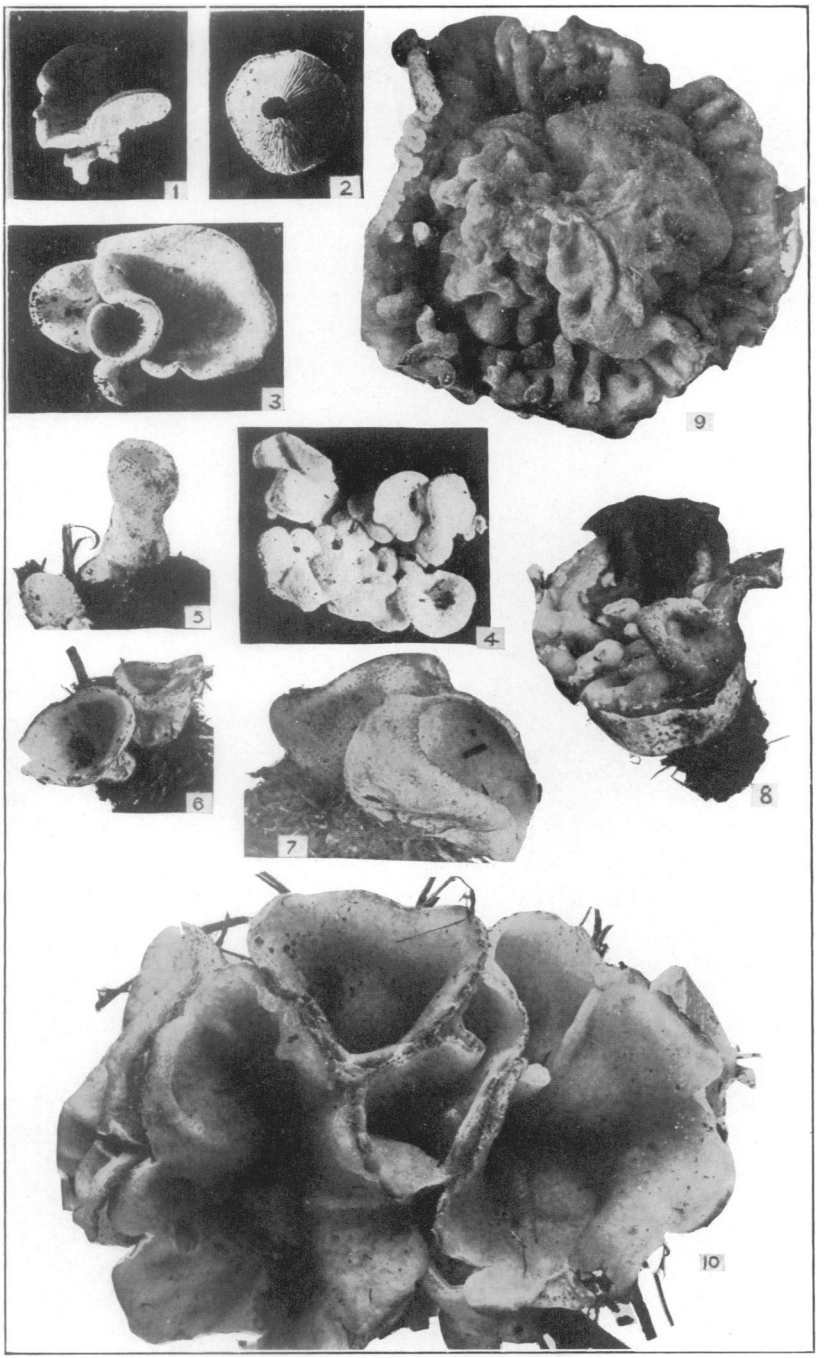

FUNGI APPEARING IN MUSHROOM BEDS

white masses are due to great numbers of fused pilei which have relatively short stipes (see Figs. 1–4).

Further study shows that the plants are sometimes isolated, growing singly and centrally stiped as shown in figures 1 and 2, but these are not very common; more often the plants are laterally stiped and cespitose.

The individual plant varies in size from .25 cm. to 2 cm. in diameter and the height is about 1/5 to 1/4 of the size of the diameter. The pileus is white and when fresh is covered by a very delicate and uneven tomentum. The pileus in the cespitose forms is umbonate but when it is centrally stiped, the disk is markedly depressed. The margin is incurved, thin, and irregular, and very often sinuous (Figure 3). When old the surface is smooth, white, and very faintly cream-colored. The stipe is white and short and has a tendency to taper upwards; very often it is lacking. The stipe generally remains white even when it is dry.

The gills are white when fresh but become decidedly cream-colored like the pileus when dry; slightly sinuate, adnate with a decurrent tooth; medium distant. When these plants are soaked in water shortly after drying they assume their natural color and consistency, which is more or less leathery. Their taste is pleasant and not unlike that of *Agaricus campestris.*

The spores are hyaline and ovoid in shape, measuring from 3.3 μ–4.4 μ × 6.6 μ–11 μ and form a spore print which is white. These plants were submitted to Dr. W. A. Murrill for identification, who regards them as a new species of no well determined genus. It is possible that these plants are dwarfed specimens of *Clitocybe dealbata,* but the great difference in size precludes their being regarded as typical of the species, although they may be closely related to it. It must be remembered that a number of varieties of this species have been reported. I am not prepared, however, to say that this is a new variety of *C. dealbata;* it certainly differs from all *C. dealbata* varieties so far described by Peck.[3]

Specimens of this fungus have been deposited with Dr. W. A. Murrill at the New York Botanical Garden.

[3] Peck, C. H. New York State Museum Bull. **157**: 67–68, 73, 1911.

ALEURIA VESICULOSA BULL. AND ALEURIA VESICULOSA BULL. VAR. SACCATA FR.

Other fungi, which appeared in the mushroom houses around New York about the same time, are shown in figures 5 to 10. These plants appeared in the manure of newly made mushroom beds. They were particularly abundant near the boards which enclosed the beds made under the benches in a greenhouse. The plants appeared in great clusters weighing from ½ to 2 lbs.

These plants are typical mushroom cellar plants and have been described and figured by Boudier.[4]

Aleuria vesiculosa var. *saccata* is identical with *Aleuria vesiculosa* except for the hymenial surface, which in the former is cerebriform as shown in figures 8 and 9. The spores also are slightly different in size. In the early stages no difference could be detected between them. The plants at this stage (Figures 5 and 6) are covered with a whitish-gray papillate structure which disappears as the plants grow older, although the color of the outer surface always remains lighter than the hymenium, which is buff-brown in color. Great numbers of plants in this stage appeared without showing any indication of a cerebriform hymenium, although at slightly older stages shown in figures 7 and 8 the two forms can readily be distinguished. It has been assumed that the manure and the soil used for casing are responsible for the sporadic appearance of the non-edible mushrooms in the mushroom cellars; up to the present however no conclusive evidence has been brought to bear on this subject and it may be suggested that the so-called "Pure Spawn" is not beyond suspicion.

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EXPLANATION OF PLATE 4

FIGS. 1, 2, 3, 4. Show the nature of the pileus, stipe, gills and general habit of fungus described in text. (Natural size.)

FIGS. 5, 6. Young stages in the development of *Aleuria vesiculosa* Bull. (Natural size.)

[4] Boudier, E. Icones Mycologicae 2: pl. 257–258. 4: p. 139.

FIG. 7. Older stage in the development of *Aleuria vesiculosa* Bull. (Natural size.)

FIG. 8. Slightly older stage in the development of *Aleuria vesiculosa* Bull. var. *saccata* Fr. (Size × ½.)

FIG. 9. Mature plant of *Aleuria vesiculosa* Bull. var. *saccata* Fr. (Size × ½.)

FIG. 10. A cluster of cups of *Aleuria vesiculosa*. (Size × ¼.)